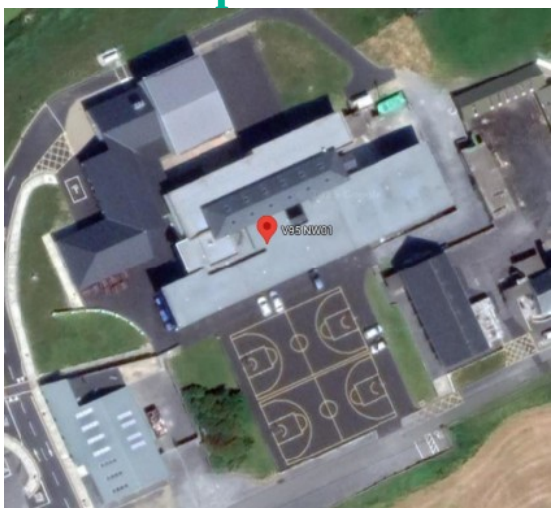
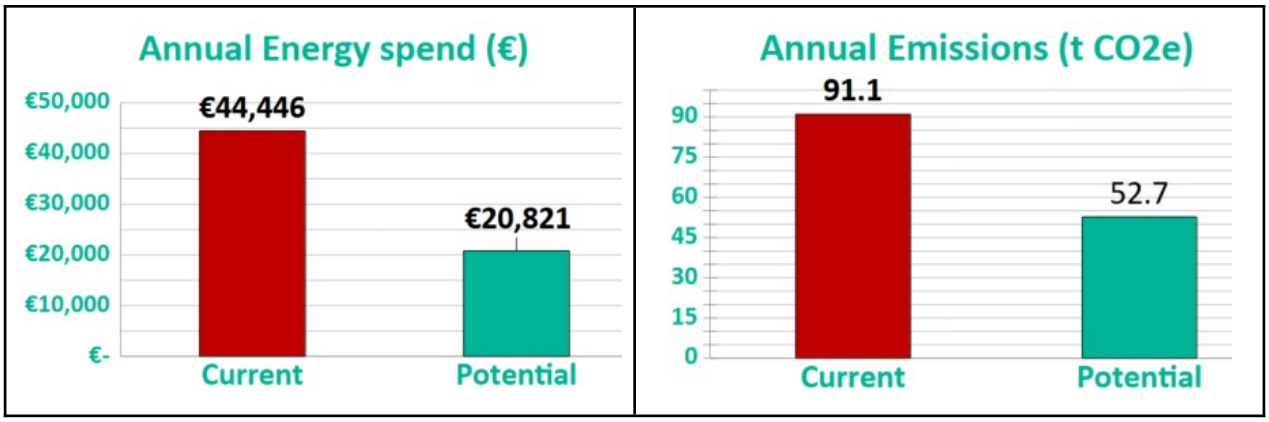
For: Spanish Point School, Spanish Point, Co. Clare



Energy & Emissions



Recommended actions

Description	Energy saved (€ per year)	Emissions reduction (t CO2e per year)	Cost of Action (€)	Payback period (years)	First Steps
6 kW Solar PV System	€1,431	1.80	€0	0.0	* Contact Dept of Education
74 kW Solar PV system	€17,166	21.61	€67,600	3.9	* Request Quotes * Apply to SEAI
Cavity pumping of 1978 extension	€1,416	4.09	€7,875	5.6	* Engage with a Project Coordinator
Electricity monitoring	€779	2.67	€500	0.6	* Engage with Clare Energy Agency
Recirculating fans in rooms with high ceilings	€944	2.73	€1,085	1.1	* Engage with a Project Coordinator
Potential for Air To Air heating systems in specific areas	€0	0.00	€0	0.0	* Engage with a Project Coordinator
Dry-lining of all external walls in	€1,888	5.45	€32,000	16.9	* Engage with LEO
Total	**€23,625.17**	**38.4 tCO2e**	**€109,060**	**NA**	

Support Scheme for Energy Audits (SSEA)

Energy Audit Report

Contents

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Table of Figures

1 Site description

This section provides an overview of your site and key information about the visit. A site tour checklist is provided in Appendix A.

Organisation name	SAINT JOSEPH'S SECONDARY SCHOOL
Site address	Spanish Point
County	Co. Clare
Eircode	V95 NW01
Useful floor area (m2)	3852
No. of personnel working at site	48
Is shift work carried out onsite?	No
Size of company fleet (no. of vehicles)	0
Typical operating hours per year	1494
Sector	Education
Build date (estimate if necessary)	1940 - 1959
Facility owned or leased	Owned

Table 1: Site Information

SEAI Application ID	NA
Site Visit Date	2025/05
MPRN Number	10008821781
GPRN Number	NA
Site Contact name	Paul Reidy
Site Contact job title	School Principal
Energy Auditor name	Colm Garvey
Energy Auditor company	Clare Community Energy Agency
Comments	Secondary School

Table 2: Visit Information

2 What fuels do you use?

A breakdown of the different types of energy used at your site is shown below in Table 2a.
The table below shows you where your business's energy comes from: the annual cost, how much you use in kilowatt hours (kWh) and how many tonnes of CO2 emissions it generates each year. The information has been taken from your energy bills which is the most accurate source.

Reference Period: 01/2024-12/2024				
Energy source	Annual Cost (€)	Annual Use (kWh)	Annual Emissions (t CO2e)	Information source
Oil - Fuel Oil	€18,884.00	199353 kWh	54.5 tCO2e	Bill
Electricity – Grid	€22,109.94	82282 kWh	26.7 tCO2e	Bill
LPG	€3,452.00	42802 kWh	9.8 tCO2e	Bill
Total	€44,445.94	324437 kWh	91.1 tCO2e	

Table 3: Energy consumption on-site

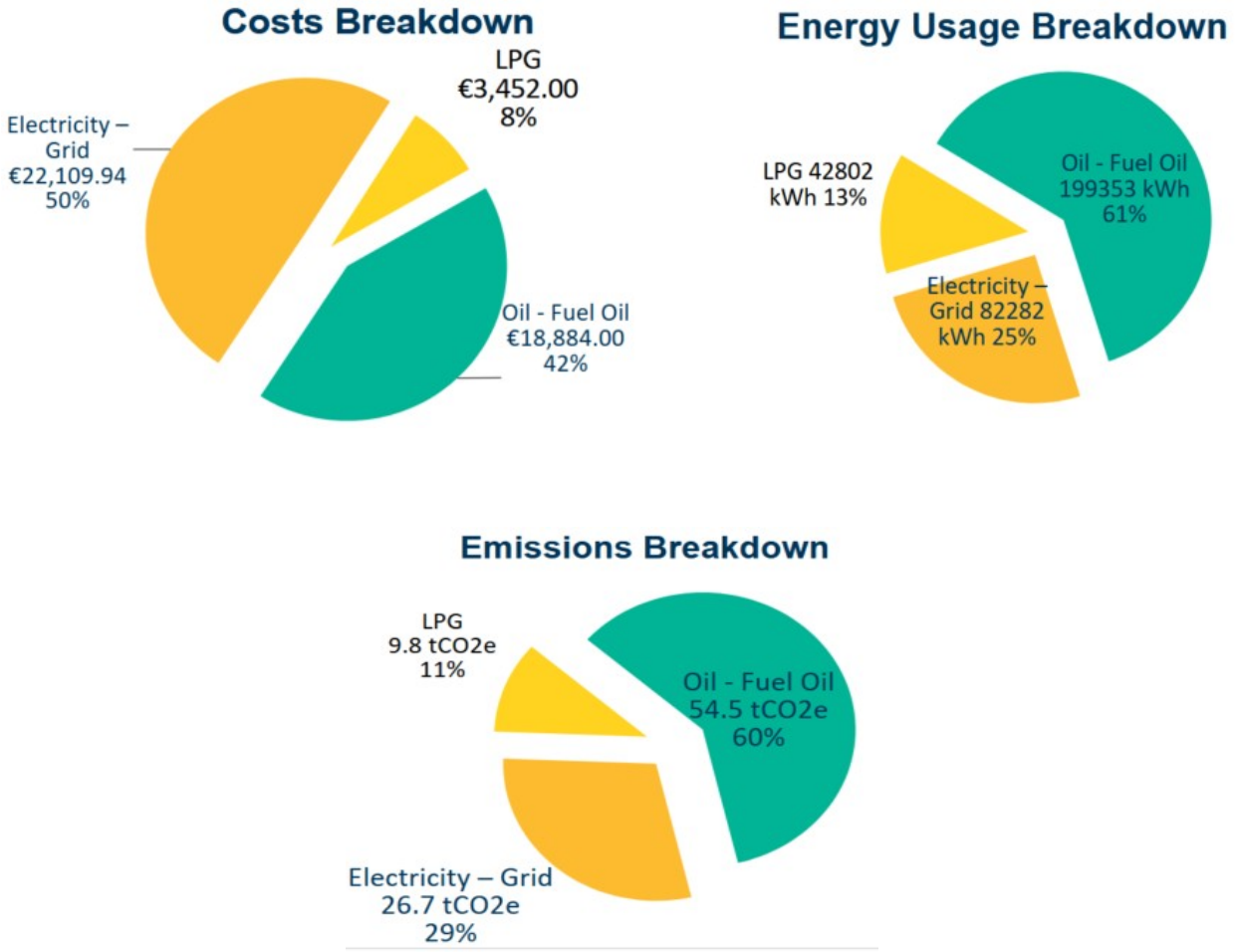

Figure 1: Breakdown of costs, emissions and energy usage

2.1 Site energy consumption summary

These graphs illustrate the information from the table above. You may find them useful when making your business case for investing in energy management measures.

3 Understanding your energy bills

The auditor analysed your energy bills to determine whether there are easy changes you can make to help you save money.

	Yes/No	Comments
Is the client on an appropriate tariff/tariffs?	TBC	Day/Night rate with Electric ireland
Is max import capacity correct for client's requirements?	Yes	
Are there any other penalties?	No	
Comment on day/night/weekend profiles		As shown in Figure , night usage is ⌊25% of electricity usage. This is below the typical threshold for choosing a night rate (30%)
Comment on any trends or anomalies in the data		Data is good quality, all taken from actual or cuystomer readings, i.e. no estimates
Has the client switched their electricity and/or gas contracts in the past 2 years?		Yes.
Any other comments		Should continue to review prices via brokers every 6 months

Table 4: Energy bills analysis

3.1 Bills analysis summary

- The school recognises the large cost of electricity usage ~€25k in 2024/2025 and is very sensitive to energy use and the associated cost/emissions
- All data is of good quality as the school has provided detailed bills, actual or customer for the full period.
- Cost / kWh has stabilised over the last 12 months (around 26c/kWh ex VAT) so it would be recommended to review this on a 6 monthly basis.

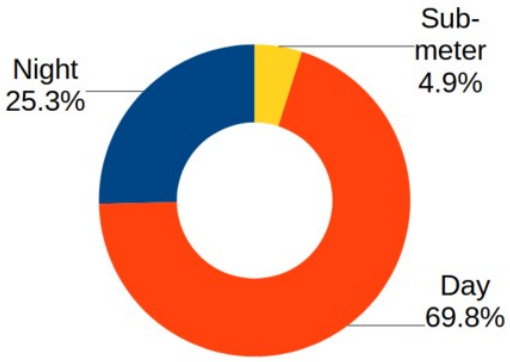

Figure 2: Day/night split of electricity usage

3.2 Monthly trends in energy use

Your energy use changes over the course of the year, for example your use of diesel will be higher when floodlighting is used. Figure 3 shows the trends in use for Electricity, Oil & Gas.

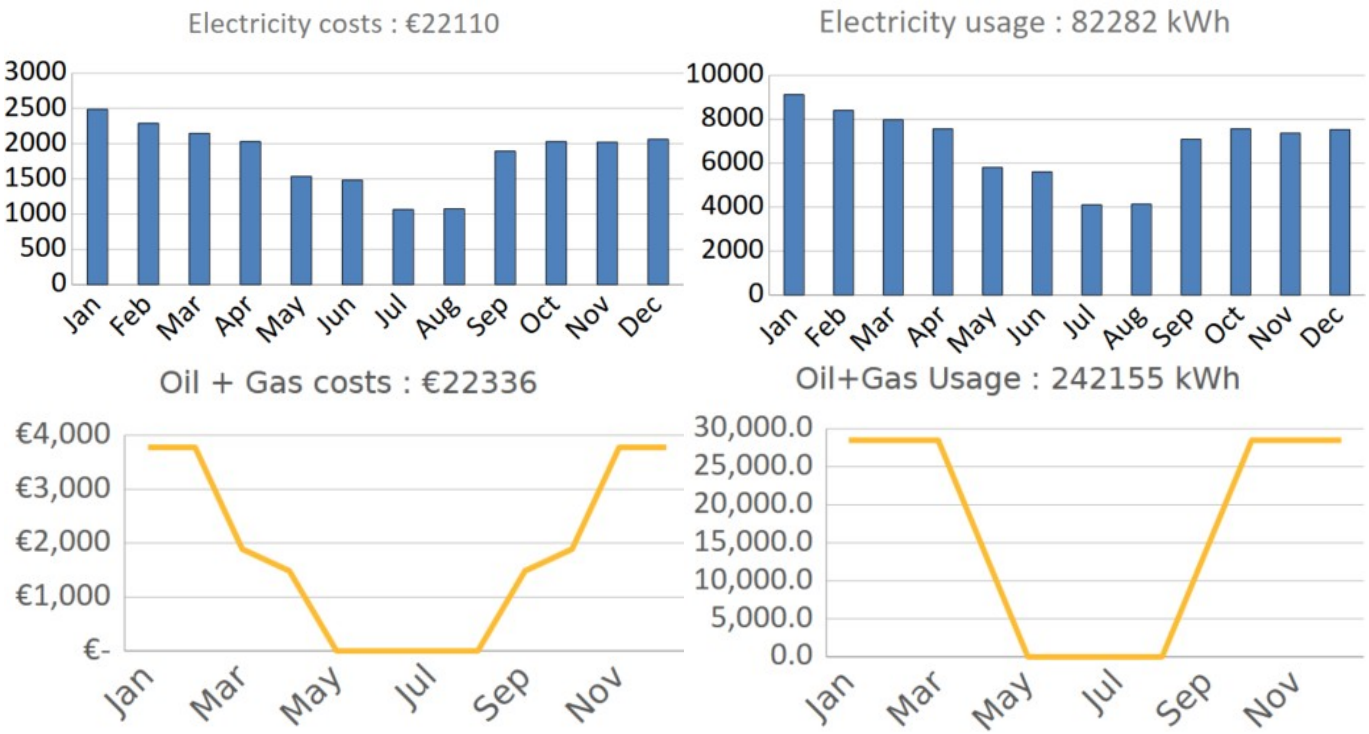

Figure 3: Monthly trends in energy usage

3.3 Monthly trends summary

- The electricity monthly usage figures are of good quality, i.e. no estimates, and track the expected usage levels in the school.
- The oil usage is managed manually according to level of activity and conditions. The monthly figures are estimates based on overall annual usage taken from inrregular bills
- The gas usage is limited to the autism unit and the new hall. This is managed by a modern BMS system (2020) and uses timers and thermostats to regulate usage

4 Electricity, heat and transport

The most significant electricity, thermal (heat) and transport energy users at your site have been identified and are listed below.

Energy User	Cost per yr (€)	Usage per yr (kWh)	Usage (% of total)	Emissions per yr (t CO2e)	Comments
Lighting	€5,527.49	20,571 kWh	25.0%	6.7 tCO2e	No detailed information is available to provide reliable figures for cost/energy/emissions per electricity user.
IT Teaching + admin equipment	€6,632.98	24,685 kWh	30.0%	8.0 tCO2e	
Metalwork/ Woodwork	€5,527.49	20,571 kWh	25.0%	6.7 tCO2e	As above
Supplementary hot water	€2,210.99	8,228 kWh	10.0%	2.7 tCO2e	As above
Pumps for central heating			10.0%		
Total	€19,898.95	74,054 kWh	100.00%	24.0 tCO2e	

Table 5: Significant Electrical Energy Users

Energy User	Cost per yr (€)	Usage per yr (kWh)	Usage (% of total)	Emissions per yr (t CO2e)	Comments
Space Heating	€18,884.00	199,353 kWh	100.0%	45.7 tCO2e	
Hot water requirements			0.0%		
Total	€18,884.00	199,353 kWh	100%	45.7 tCO2e	

Table 6: Significant Thermal Energy users

Vehicle type	Number of vehicles	Fuel type	Fuel cost per yr (€)	Usage per yr (litres)	Usage per yr (kWh)	Emissions per yr (t CO2e)	Usage (% of total)
No vehicles							
Total			€ -	0	0	0	0%

Table 7: Significant Transport Energy User

5 Energy Management

The aim of Energy Management is to reduce energy use and improve energy efficiency. A structured approach to energy management that includes every aspect of an organisation – including finance, human resources, maintenance, purchasing and planning – is more likely to achieve significant, long-term savings than an unstructured, ad hoc approach.

An "energy management diagnostic" was carried out at your site. The purpose of the diagnostic is to assess your organisation's approach to energy management, looking at 6 aspects of energy management and ranking each on a scale from 0 – 4.

Aspect of Energy Management	Description	Your score
Energy Policy	Whether your business has an energy policy, and the level of commitment to it	1
Organisation	The extent to which energy management is supported by senior management	1
Communication	How, and how often, staff are informed about energy issues	2
Information systems	How your business monitors energy consumption	1
Marketing	How staff are made aware of the benefits of energy management	3
Investment	How your business makes decisions around investing in energy efficiency	4

Table 8: Energy management scores

To view the complete diagnostic showing the various levels, please refer to Appendix B.

6 Electricity, heat and transport

6.1 Actions already taken

In the years leading before this energy audit, a number of energy efficiency actions actions have already been taken in order to reduce energy usage in the school.

Completed actions	Estimated impact (kWh)	Comments
Windows upgraded in 2016	NA, no reference	Installed in May 2025
Modern BMS for autism unit and new hall	NA, no reference	Completed in 2020

Table 9: Actions already taken

6.2 Recommended actions to save energy

Your Auditor reviewed potential actions that your organisation can take to improve energy efficiency and generate renewable energy at your facility (specifically, through heat pumps, biomass, and photovoltaics). A list of actions is provided in Table 6a. Many organisations are interested in opportunities for generating renewable energy. A summary of your facility's suitability for both renewable heating and renewable electricity (solar) is provided below and in Appendices D and E.

Renewable Energy – heating

SEAI's Support Scheme for Renewable Heat supports renewable heating in businesses by offering a grant for heat pumps and a tariff for biomass/biogas boilers and CHP. As part of this audit, the auditor assessed your facility's suitability for converting to renewable heat. A brief summary of this assessment is provided below. The complete renewable heat assessment tool may be found in Appendix D. Further information about the scheme may be found on the website[1] or by emailing SSRH@seai.ie

Summary of facility's suitability for renewable heat: **SUITABLE**

Overall suitability of the facility for renewable heat.	If the recommended actions to upgrade the building fabric are carried out, then the school would be a good candidate for an air to water heatpump

If facility is suitable for renewable heat:	
Estimated annual kWh savings	33558
Type of energy saved	Oil
Estimated emissions saved (tCO2e)	9.18

Table 10: Impact of Renewable Heat

Renewable Energy – photovoltaics (solar)

Photovoltaics generate electricity using solar energy from the sun, providing a completely renewable, clean source of electrical energy. As part of this audit, the auditor assessed your facility's suitability for generating electricity from solar energy. A brief summary of this assessment is provided below. The complete photovoltaic assessment tool may be found in Appendix E.

Summary of facility's suitability for photovoltaics: **SUITABLE**

[1] https://www.seai.ie/business-and-public-sector/business-grants-and-supports/support-scheme-renewable-heat/

Overall suitability of the facility for expanded Solar PV system.	The school is an excellent candidate for an 80 kW Solar PV system.

Impact of solar PV:

If facility is suitable for expanded solar PV:	
Estimated annual kWh savings (only from PV)	72,150
Estimated emissions saved (tCO2e)	23.61

Table 11: Impact of Solar PV system

Study of Solar PV suitability and sizing

- the area highlighted in yellow in Figure 4 would allow for a potential 80 kW Solar PV system.
- We would recommend an 80 **kW system** , given the current usage of the school.
- Given the location/orientation of the roof this would produce **72150 kWh per year** (taken from this online calculator
- This is very close to the total electricity usage of the school currently.
- Recommendation summary
  - Solar PV System size : 80 kW
  - Battery size : 50 kWh
- Quotes for such a Solar PV system can be requested from any of the registered SEAI installers.

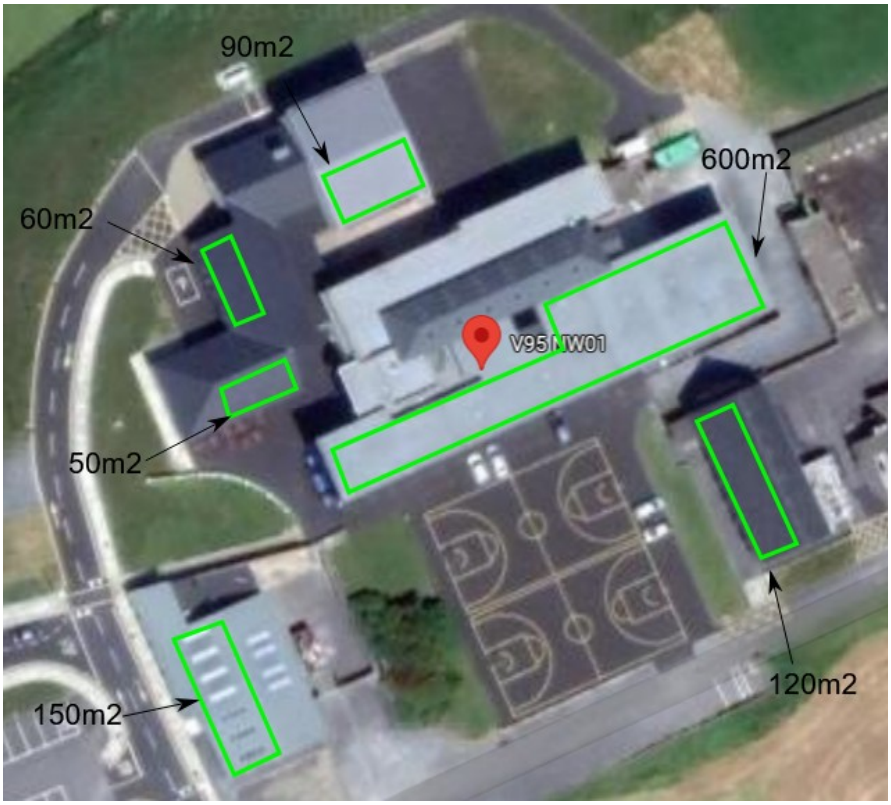

Figure 4: Proposed location of Solar PV system

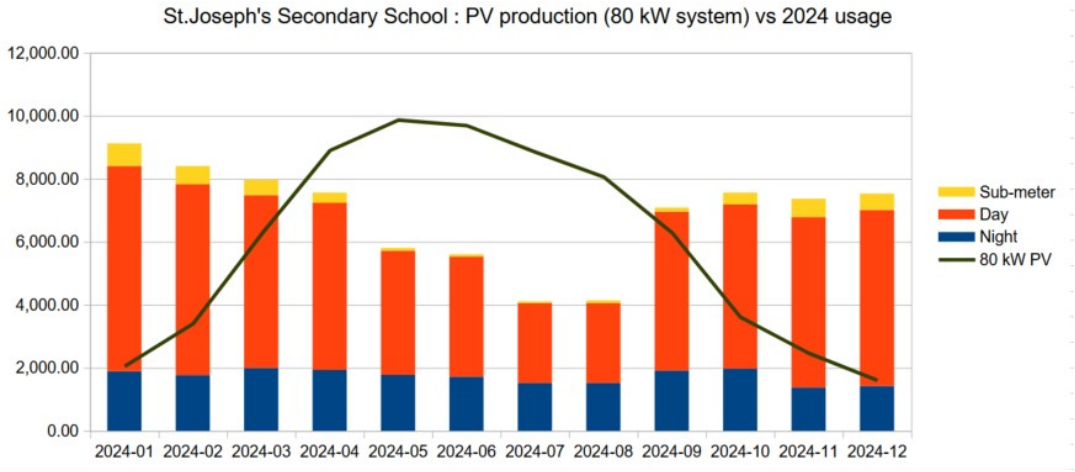

Figure 5: Potential production from 80 kW Solar PV system

6.3 Recommended actions

Your auditor has identified the top actions you should take to improve the energy efficiency of your site and save on your energy costs. These actions are listed in Table 6d below.

Description	Energy savings (kWh per yr)	Type of energy saved	Cost savings (€ per yr)	Emissions reduction (t CO2e per yr)	Estimated cost of action (€)	Payback period (years)	Potential supports	Comments / Additional info	First Steps
6 kW Solar PV System	5,550	Electricity – Grid	1,431	2	€0	0.0	Other - please specify in comments	* Assuming the initial small system is funded by the existing Dept of Ed Solar PV programme * The goal of this initial system is to offset electricity usage somewhat but above all to provide a monitoring platform to identify electricity waste	* Contact Dept of Education
74 kW Solar PV system	66,600	Electricity – Grid	€17,166	21.61	€67,600	3.9	Other - please specify in comments	* Assuming the system is an 74 kW of PV panels plus a 50 kWh battery system * Assuming a cost of ~€85k ex. Vat for a 18 kW system + 20kWh of batteries * Assuming fully funded from Dept. Of Ed, otherwise a €17400 SEAI grant * Assuming that 65% of PV production is used in the school(saving ~29c/kWh) * Assume the remaining PV production is exported at 20c/kWh	* Request Quotes * Apply to SEAI
Cavity pumping of 1978 extension	14,951	Oil - Fuel Oil	€1,416	4.09	€7,875	5.6	Communities grant	* Assuming a 7.5% reduction in kWh for heating * Assuming 450m2 of cavity wall in 1978 extension and 300m2 in metalwork/woodwork to be pumped @ €15/m2 * Assuming fully funded from Dept. Of Ed	* Engage with a Project Coordinator
Electricity monitoring	8,228	Electricity – Grid	€779	2.67	€500	0.6	Communities grant	* Assuming a 10% reduction in kWh for electricity	* Engage with Clare Energy Agency

Recirculating fans in rooms with high ceilings	9,968	Oil - Fuel Oil	€944	2.73	€1,085	1.1	Communities grant	* Assuming a 5% reduction in kWh for heating * Minimum pumped cavity and 2" slab in lower meter of wall in attic * Assuming each wall is ~25 m2 and 32m2 of attic wall to slab * Assuming cost of €30/m2 for slab or €15/m2 for pumped cavity * Assume 30% funding from Community Grant scheme as worst case	* Engage with a Project Coordinator
Potential for Air To Air heating systems in specific areas	-	Oil - Fuel Oil	€0	0.00	€0	0.0	Other - please specify in comments	* An option is specific parts of the school (e.g. metalwork/woodwork building) could benefit from an independanet heating system * Considerably cheaper than an equivalent air-to-water heat pump * Ideally suited to low-occupancy buildings like schools	* Engage with a Project Coordinator
Dry-lining of all external walls in	19,935	Oil - Fuel Oil	€1,888	5.45	€32,000	16.9	Other - please specify in comments	* Assuming a 10% reduction in kWh for heating * Minimum 50mm insulated board on all external walls of original building * Assuming 800m2 of external wall to insulate * Assuming cost of €80/m2 * Assume 50% funding from Community Grant scheme as worst case with potential for full funding from Dept. Of Ed.	* Engage with LEO

Table 12: Recommended Actions

Appendix D – Renewable Heat Assessment

	Result	Comments
Is the client using fossil fuel for heating purposes?	Y	Oil and Gas (3 separate heating systems)
Suitability for heat pump		
Could a heat pump offer an alternative? e.g. does the facility have a steady low/medium heating requirement?	No	* Given the low occupancy nature of the school, an air-to-water heat pump is not an ideal candidate. * Multiple air-to-air heat pumps could be a good match given their ability to heat space rapidly on demand
o If yes for space heating: Is it likely that the building will achieve the required U values for a heat pump to operate effectively?	Yes	
o If yes for space heating: What fabric and ventilation upgrades may be required? If "Other" please specify in Comments	Wall insulation	
Rank heat pump readiness for space heating: 1 – major upgrades required to all/most building elements, 2- major upgrades required to one building element, 3 – minor upgrades required to all/most building elements, 4 – minor upgrade required to one building element, 5 – heat pump ready	3	See above
o If yes for process heating: Is it likely that a heat pump could deliver the heat requirement?	N/A	N/A
Estimate of emissions reduction for heat pump conversion	No	

Table 13: Renewable Heat Assessment

Suitability for biomass		
Could biomass/biogas offer an alternative? i.e. does the facility have high peak loads?	N	The labour requirements render this unattractive for the school
o If yes, are there any space constraints, e.g. for the boiler/CHP unit, and the delivery and/or storage of fuel? If "other" please specify in comments	Y	No storage area available
o If yes, are there any local supply of waste biomass or local biomass enterprises that can provide fuel stock? Please specify in comments	N	
o If yes, are there dedicated maintenance personnel on site?	N	

Table 14: Suitability for biomass

Appendix E – Solar photovoltaic assessment

Suitability for solar PV	Result	Comments
Does the client use electricity from non-renewable sources?	Y	Grid
Does the client appear to have a suitable roof for the installation of solar photovoltaic panels? Consider size, tilt angle, orientation and shading.	Y	Multiple suitable roofs are available
If the roof is not suitable, is there an alternative location available?	Y	They do however have sufficient ground area available
If solar PV is feasible, what is the client's estimated required power output?	80 kW	
Estimate the proportion of the client's electricity requirements that could be met through installing solar PV	86.5%	Based on current usage

Appendix F – Glossary of terms

Term	Definition
biogas	Biogas is a form of renewable energy. Biogas is produced through the anaerobic digestion or fermentation of organic feedstocks including biomass, sewage and agricultural and municipal wastes. The biogas can then be burnt as a renewable fuel.
biomass	Biomass fuel is a form of renewable energy generated from burning organic material such as wood, poultry litter, and straw
CHP	Combined Heat and Power: an energy efficient way to generate electricity whilst capturing and using the heat that would otherwise be wasted.
CO_2e	Carbon dioxide equivalent: a standard unit for measuring emissions by expressing the impact of all greenhouse gases (including carbon dioxide, methane and nitrous oxide) in terms of the amount of carbon dioxide that would create the same amount of atmospheric warming
electricity imported	Electricity that has been generated offsite for use at your facility
energy efficiency	Using less energy to perform the same task, i.e. reducing energy waste
fossil fuel	Carbon-based fuels from fossil hydrocarbon deposits, including coal, peat, oil, and natural gas. Fossil fuels produce carbon dioxide (CO_2) when burned, which is a greenhouse gas
GPRN	Gas Point Registration Number (GPRN): a unique reference number assigned to every gas point on the natural gas network. A gas point is a point where gas is taken from the gas network system, measured by a meter and consumed by an end user. Each individual gas point has its own GPRN. GPRNs have up to 7 digits.
heat pump	Electrical devices which convert energy from the air outside of your home into useful heat, in the same way a fridge extracts heat from its inside. Different types of heat pump draw heat from different sources: air, water or the ground.
kWh	Kilowatt hour: a unit of energy, equivalent to operating a 1,000 watt appliance running for one hour.
LPG	Liquefied Petroleum Gas is manufactured in oil refining, crude oil stabilisation and natural gas processing plants and consists of propane and/or butane gases. Typically used in boilers and for cooking.
Maximum Import Capacity (MIC)	The upper limit on the total electrical demand that a consumer can place on the network system.
MPRN	A Meter Point Reference Number (MPRN) is a unique 11-digit number assigned to every single electricity connection and meter in the country. Each individual meter has its own MPRN.
natural gas	Natural gas is a naturally occurring fossil fuel that is composed mainly of methane. It is piped through a national gas transmission & distribution network (in gaseous form, under pressure) directly to end users in the industrial, power generation, services and domestic sectors.
renewable energy	Energy from renewable non-fossil fuel sources, e.g. wind, solar (both solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, and biogas
solar photovoltaics	Also called “solar PV”, solar panels that generate electricity when exposed to sunlight
thermal energy	Thermal energy refers to all solid, liquid and gas fuels used for non-transport purposes. This includes both fossil and renewable fuels used in boilers, space & process heating systems, catering, fuel-based electricity generators (onsite), CHP and in all plant, equipment & other non-road mobile vehicles.

Appendix G – Completion of Works form

A. Audit Details

Business/Organisation Name	
Applicant SSEA ID	
Facility MPRN	
Facility Address	
Facility Eircode	

B. Auditor declaration

By signing this Completion of Works, the undersigned states that:

- The Energy Audit carried out at the above Facility Address has been delivered according to the SSEA Terms and Conditions and SSEA Guidance for Auditors.
- The information provided in this Energy Audit is true and correct to the best of my knowledge.

Signed	
Date	
Name	
Date SSEA site visit was carried out	
Total cost of this SSEA Energy Audit, including the Voucher	

C. Applicant declaration:

By signing this Completion of Works, the undersigned states on behalf of the Business/Organisation named above that:

- A visit to the above Facility Address was carried on the date referred to in Section B by the Auditor referred to in Section B for the purpose of completing an energy audit,
- I have received a copy of the SSEA Report from the Auditor,
- I understand the Report's findings, and
- I am satisfied with the site visit and with the quality of the Energy Audit Report

Signed	
Date	
Name	
Title/Position in Business/Organisation*	

* Must be signed by a Director or Senior Manager (or equivalent level) of the business/ organisation referenced below.

NOTE: This Completion of Works form should be returned with all other completed documents relating to this application. If any form is incomplete or missing, then the request for payment will be returned.

Notice for Applicants

Applicants please note:

This document was prepared by a Registered Energy Auditor and recommends practical ways that you can improve the energy performance of your business, using information gathered from an assessment of your business's current energy performance. Please seek professional advice before undertaking any energy upgrade works.

Sustainable Energy Authority of Ireland

SEAI is Ireland's national energy authority investing in, and delivering, appropriate, effective, and sustainable solutions to help Ireland's transition to a clean energy future. We work with the public, businesses, communities, and the Government to achieve this, through expertise, funding, educational programmes, policy advice, research and the development of new technologies.

SEAI is funded by the Government of Ireland through the Department Environment, Climate and Communications.

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Rialtas na hÉireann
Government of Ireland